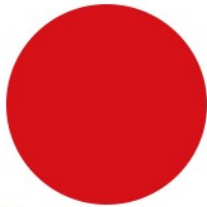


# RATIOS & PRO- PORTIONS

WELCOME ALL

SHABANA



# TOPICS



- BRIDGING COMPONENTS
- ACTUALS & ASSUMPTIONS
- PARTNERSHIP
- ALLIGATIONS

## BRIDGE THREE COMPONENTS

Given		Find Out
$A:B = 4:5$	$B:C = 6:7$	$A:C =$
$A:B = 6:7$	$B:C = 8:9$	$A:B:C =$
$BC:AC:AB = 1:2:3$		$A:B:C =$
$1/A : 1/B : 1/C = 2:3:5$		$A:B:C =$



## BRIDGE FOUR COMPONENTS

- Given:  $A : B = 2 : 5$ ,  $B : C = 3 : 1$ ,  $C : D = 3 : 5$ ; Find  $A : B : C : D$
- Find B's share in Rs. 6300 if  $A : B = 2 : 3$ ,  $B : C = 4 : 5$ ,  $C : D = 3 : 7$
- Find  $A : D$  if  $A : B = 2 : 5$ ,  $B : C = 4 : 3$ ,  $C : D = 1 : 7$



# PRACTICE PROBLEMS

- Two number are in the ratio 3 : 5. If 9 is subtracted from each, the new numbers are in the ratio 12 : 23. The smaller number is:
- a. 27      b. 30      c. 33      d. 36

## PRACTICE PROBLEMS

- Seats for Mathematics, Physics and Biology in a school are in the ratio 5 : 7 : 8. There is a proposal to increase these seats by 40%, 50% and 75% respectively. What will be the ratio of increased seats?
- a. 1:2:3    b. 2:3:4    c. 3:4:5    d. 4:5:6

## PRACTICE PROBLEMS

- The ratio of the monthly incomes of A and B is 3:4. The ratio of their monthly expenditures is 4:5. Find the ratio of their monthly savings, if the savings of A is  $\frac{1}{4}$ th of his income.
- a. 13:16                      b. 15:13                      c. 12:19                      d. 12:13

## PRACTICE PROBLEMS

- If Rs. 782 be divided into three parts, proportional to  $\frac{1}{2} : \frac{2}{3} : \frac{3}{4}$ , ie first part is:
- a. 182                      b. 190                      c. 196                      d. 204



## PRACTICE PROBLEMS

- Three friends Alice, Bob and Charlie divide \$1105 amongst them in such a way that if \$10, \$20 and \$15 are removed from the sums that Alice, Bob and Charlie received respectively, then the share of the sums that they got will be in the ratio of 11:18:24.

How much did Charlie receive?

- a. \$ 495      b. \$ 510      c. \$ 480      d. \$375

## PRACTICE PROBLEMS

- The ratio of incomes of A and B and also those of B and C are in the ratio of 2: 3. A third of C's income exceeds half of A's income by Rs.80. If each of them spend the same amount of money, then their savings are in the ratio of 1: 9: 21. What is their combined expenditure?
- a. Rs.300    b. Rs.280    c. Rs.450    d. Rs.900

## PRACTICE PROBLEMS

- In a bag, there are coins of 25 p, 10 p and 5 p in the ratio of 1 : 2 : 3. If there is Rs. 30 in all, how many 5 p coins are there?
- a. 50                  b. 100                  c. 150                  d. 200

# ALLIGATION RULE



## PRACTICE PROBLEMS

- Find the ratio in which rice at Rs. 7.20 a kg be mixed with rice at Rs. 5.70 a kg to produce a mixture worth Rs. 6.30 a kg.
- a. 1:2      b. 2:3      c. 1:6      d. 7:3

## PRACTICE PROBLEMS

- Tea worth Rs. 126 per kg and Rs. 135 per kg are mixed with a third variety in the ratio 1 : 1 : 2. If the mixture is worth Rs. 153 per kg, the price of the third variety per kg will be:
- a. 170.25      b. 171.50      c. 175      d. NOTA

## PRACTICE PROBLEMS

- In what ratio must water be mixed with milk costing Rs. 12/ litre to obtain a mixture worth of Rs. 8/ litre?
- a. 1:2                      b. 2:3                      c. 1:6                      d. 7:3

## PRACTICE PROBLEMS

- The average salary of all the employees of a company is Rs. 12000. While average salary of a Unionized staff is Rs. 8000 and that of the management staff is Rs. 13000. What is the ratio of the number of unionized staff to the number of management staff?
- a. 2:4      b. 4:1      c. 3:1      d. 1:4



## PRACTICE PROBLEMS

- In what ratio must water be mixed with milk to gain  $16\frac{2}{3}\%$  on selling the mixture at cost price?
- a. 1:2      b. 2:3      c. 1:6      d. 7:3

## PRACTICE PROBLEMS

- In what ratio must a grocer mix two varieties of tea worth Rs. 60 a kg and Rs. 65 a kg so that by selling the mixture at Rs. 68.20 a kg he may gain 10%?
- a. 5:4                  b. 4:3                  c. 3:2      d. NOTA

## PRACTICE PROBLEMS

- How much salt(in kg) worth 42 P / kg must one mix with 25 kg of salt worth 24 P / kg so that he may, on selling the mixture at 40 P / kg, gain 25% on the outlay.
- a. 18              b. 20              c. 22              d. 24

## PRACTICE PROBLEMS

- A merchant has 1000 kg of sugar, part of which he sells at 8% profit and the rest at 18% profit. He gains 14% on the whole. The quantity sold at 18% profit is:
- a. 600              b. 575              c. 550              d. NOTA